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Southwestern
Region

Landscape Character Types of the National Forests in Arizona and New Mexico

The Visual Management System

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OBJECTIVES

The objectives for defining the landscape character types, variety classes, and sensitivity levels for the Southwestern Region are:

1. To provide a base that will help ensure management decision-making, management direction, and management activities that will maintain a full range of visual experiences as the visual management system is utilized in land management planning and project planning.

2. To establish specific criteria for determining variety classes within each character type.

3. To provide a written description and representative photographic examples of each character type.

4. To establish specific criteria for determining sensitivity levels.

VARIETY CLASSES

The National Forest Visual Management System requires a frame of reference and criteria for the identification and classification of scenic quality (variety class). This is done by the establishment of landscape character types that provide the frame of reference for the variety class criteria.

Landscape character types are geographical areas which have similar visual characteristics of landform, vegetation, and water form. No single landscape feature alone determines a character type all features combine to create a certain visual image, but landform is usually more influential than the other characteristics.

The character types are developed as a frame of reference and must be broad enough to logically stratify into differing degrees of diversity.

The degrees of diversity in a character type are called variety classes and establish a means of measuring scenic quality. There are three variety classes.

Class A. (Distinctive) Refers to those areas where features of landform, vegetation, and/or water form are of unusual or outstanding visual quality. They are usually not common in the character type.

Class B. (Common) Refers to those areas where features contain variety in form, line, color, and texture or combinations thereof but which tend to be common through the character type and are not outstanding in visual quality.

Class C. (Minimal) Refers to those areas whose features have little change in form, line color, or texture. Includes all areas not found under classes A and B.

Each character type will usually include all of the variety classes in approximately the following proportions.

Variety Class A	10-25 percent
Variety Class B	50-80 percent
Variety Class C	10-25 percent

In the more nationally or regionally significant character types, such as the Datil and West Range, it may be logical that a greater percentage of land falls in Variety Class A, and a lower percentage of land falls in Variety Class C. These percentages are meant to apply to the entire character type not just to the part of the character type that is National Forest. Therefore, variety class descriptions include landscape features of all lands within the character type.

CHARACTER TYPES

A total of 19 character types have been established within Region 3 (including Oklahoma and Texas). Of these, National Forest lands are found in 13 of the character types. Character types ignore administrative, political, and ownership boundaries and are delineated based upon what the physical landscape looks like. Boundaries between adjoining character types are broad and are usually a zone of transition from one set of broad visual characteristics to another, rather than a distinctive change found in the landscape.

This document will give the following information for each character type:

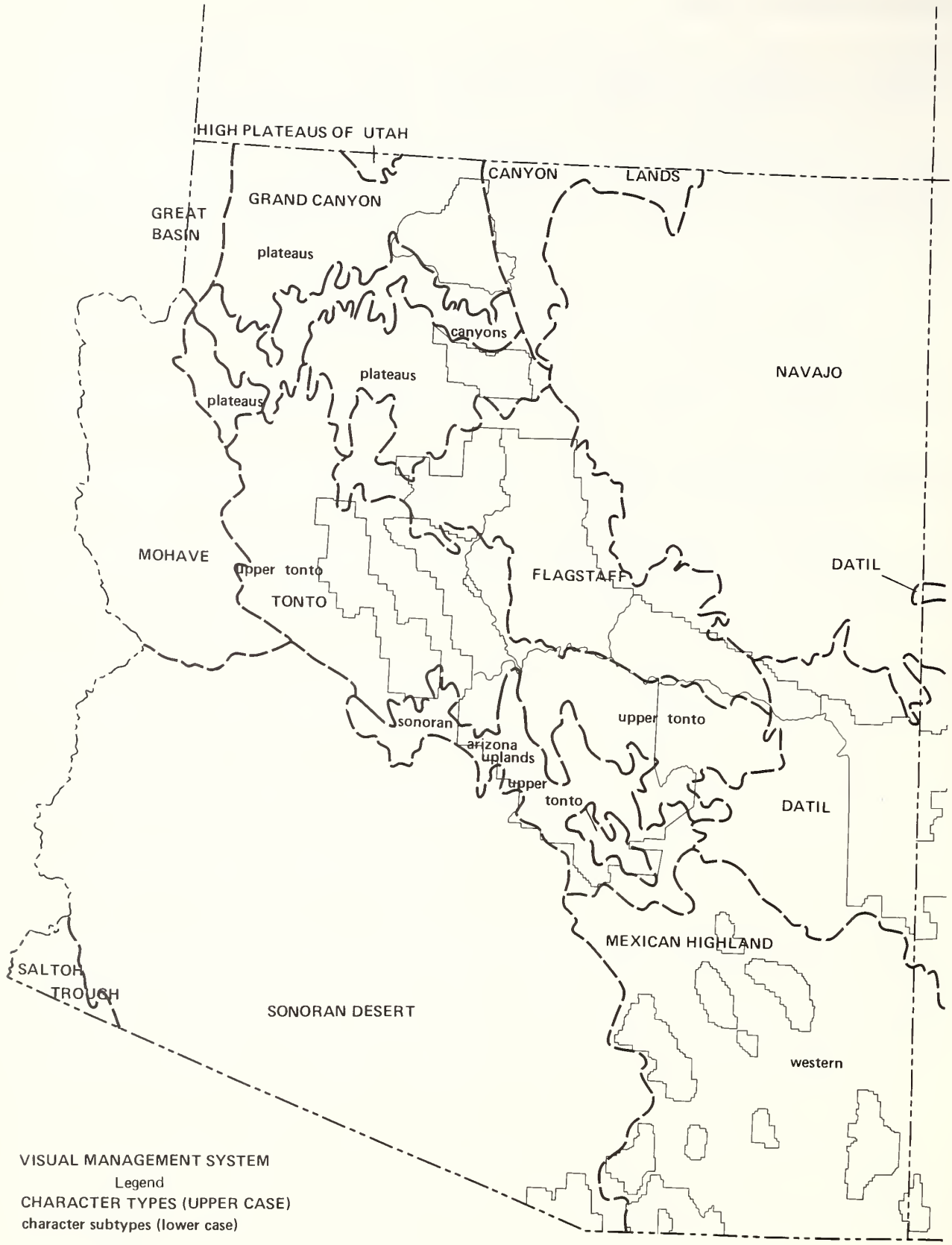
1. Locates the character type on a map of the Region.

2. Briefly describes the character type.

*3. Provides in matrix form a set of criteria for each variety class within the character type.

*4. With photographs shows representative examples of each variety class within the character type.

*Only for those character types that have National Forest lands.



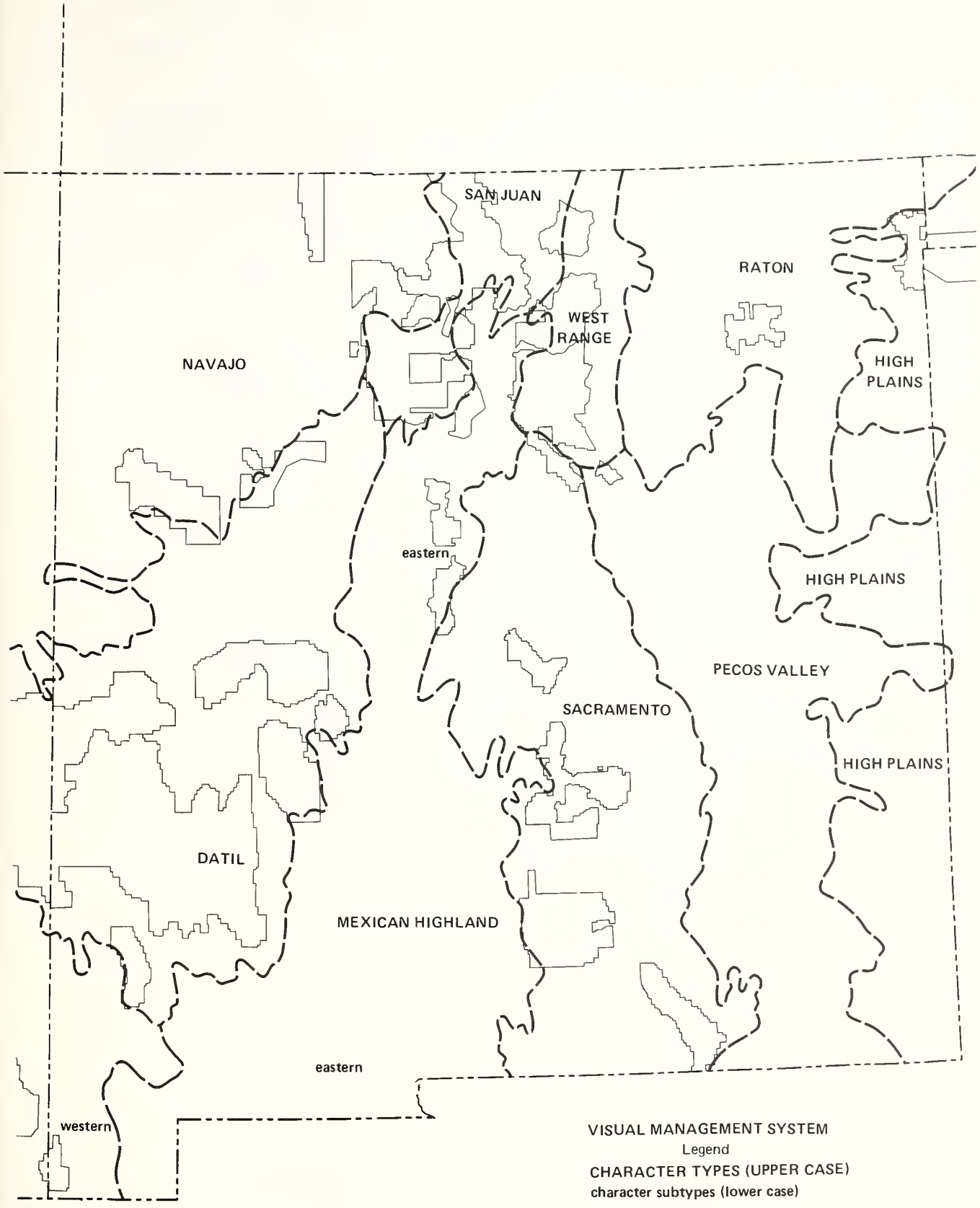
VISUAL MANAGEMENT SYSTEM

Legend

CHARACTER TYPES (UPPER CASE)

character subtypes (lower case)

ARIZONA



VISUAL MANAGEMENT SYSTEM

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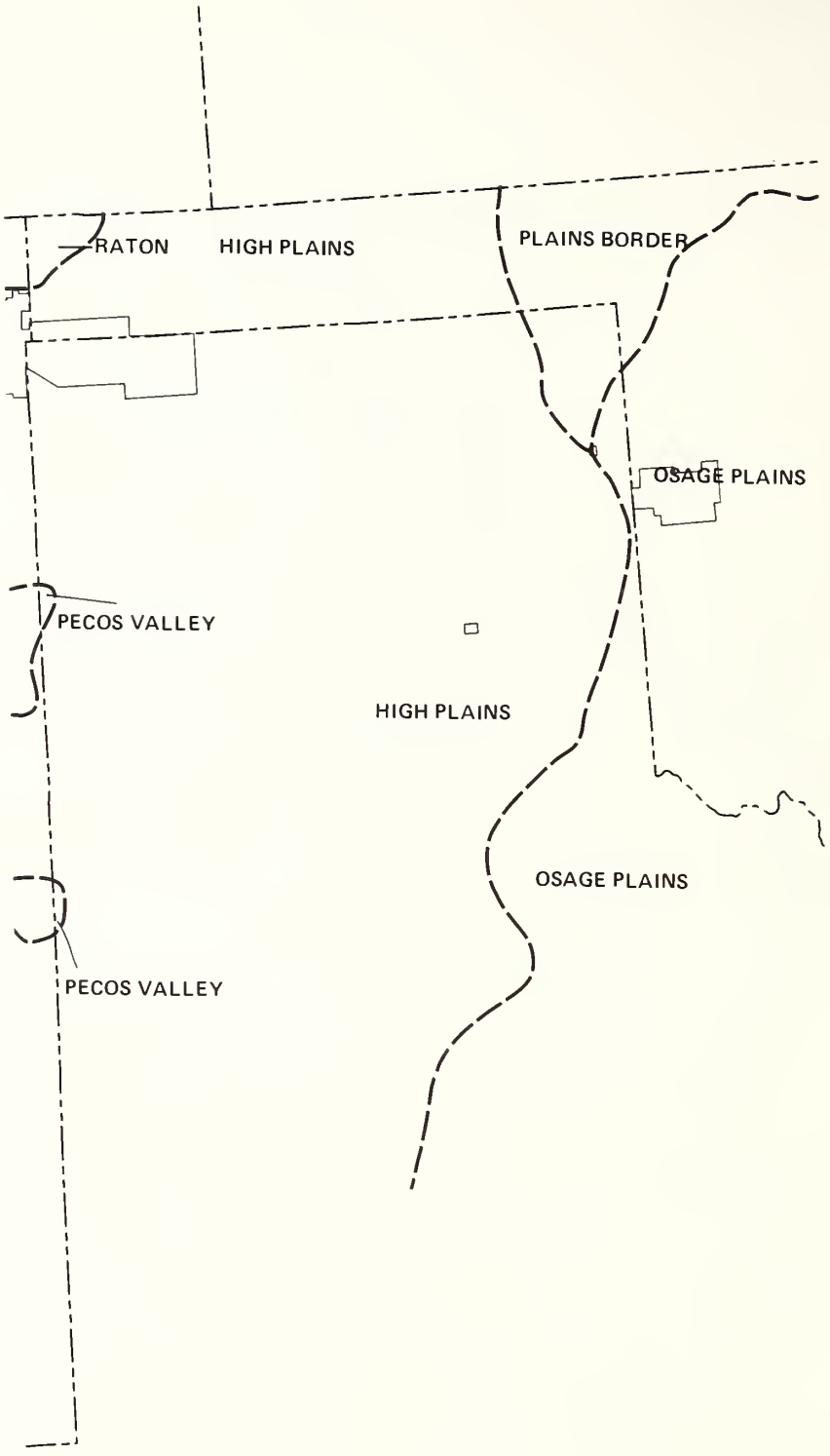
CHARACTER TYPES (UPPER CASE)

character subtypes (lower case)

NEW MEXICO



VISUAL MANAGEMENT SYSTEM
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CHARACTER TYPES (UPPER CASE)
character subtypes (lower case)

TEXAS & OKLAHOMA

SALTON TROUGH CHARACTER TYPE

Description

The Salton Trough is located in southeastern California, southwestern Arizona, and Baja and Sonora, Mexico. It is the delta formed by the confluence of the Colorado River and the Gulf of California. It is an area of desert alluvial slopes and delta plain.

The area is a vast alluvial fan that is bisected by the Colorado River. Approximately 90 miles above the head of the Gulf of California, is a great concave basin, the Salton Sink, which is 270 feet below sea level and covers more than 2000 square miles. At one time, it was a downfault area that was part of the Gulf of California. As the delta of the river grew, a dam was formed and at times water was diverted into the basin creating a shallow lake, the Salton Sea. At one time, the basin filled to the level of the dam and cliffs were cut and beaches were built that are still visible. When the flow of the river changed and drained to the Gulf of California again, the lake quickly evaporated.

Vegetation is open to sparse with bare soil or desert pavement and bare rock generally dominate. The predominate vegetation throughout the area is creosote bush-bursage. Stringers of riparian deciduous woodland can be found along watercourses.

The area is drained principally by dry washes. The Colorado River meanders across the delta as a slow moving stream before discharging into the Gulf of California. At one time, the Colorado discharged into a basin north of the Gulf of California creating the Salton Sea. When the flow reverted to the Gulf of California, the lake level dropped twenty-five feet and its water became four times as saline as the river's water.

SONORAN DESERT CHARACTER TYPE

Description

The Sonoran Desert character type is located in northwestern Sonora, Mexico, southeastern California, and southwestern Arizona. It includes the plains and mountain ranges south of the Williams River and west of the base of the Bradshaw, Mazatzal, Superstition, Tortilla, Santa Catalina, Rincon, and Santa Rita mountain ranges. It is an area of broad flat desert plains separated by small barren mountain ranges. About one-fifth of the area is occupied by mountains and four-fifths by plains. Elevations of the plains rarely exceed 3000 feet and are generally less than 2000 feet.

The area is further characterized by weathered block mountains with intervening broad desert valley plains. The mountains are generally small, barren, and low, and usually rise no higher than 4000 feet, although some peaks rise to 6000 and 7000 feet. They consist largely of granitics and volcanics. The mountain slopes are highly dissected and have sharp, angular ridgetops, and V-shaped ravines. Rock pediments or platforms bare of soil or thinly covered, are common.

Vegetation is open to sparse with bare soil or desert pavement and bare rock generally dominate. The predominate vegetation throughout the area is creosote bush-bursage. Open stands of giant sahuaro (saguaro), organ pipe and sentia cactus and paloverde are common in some parts of the area while oak woodland can be found on the slopes of some of the higher mountains. There also is a large area of desert grassland in the southeastern part of the character type. Stringers of riparian deciduous woodland are common along watercourses.

The mountains are drained by steep, rocky, V-shaped ravines while the plains are drained by broad, shallow, U-shaped dry washes, often referred to as arroyos. Most of the area has external drainage but some of the area drains internally to small saline (alkali) lakes and saline (alkali) marshes. The Colorado River is the only perennial watercourse in the character type. It leisurely flows through the area in a broad valley. There are a few small man-made lakes or reservoirs in the area, the largest of which is Pena Blanca Lake (49 acres). They are used primarily for recreation.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as craggy mountain peaks, well defined bajadas, large playas, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks with distinctive form and color contrast that become focal points. or with distinctive gorges, deep valleys, or deep canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments or cliffs that dominate the surrounding landscape because of their scale, color and/or texture.	Vegetation is highly varied and distinctive — With riparian deciduous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with oak woodland or paloverde-mixed cactus combined in strongly defined patterns with riparian deciduous forest desert pavement, and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation such as specimen stands of giant cacti (sahuaro, organ pipe or sentia) or fan palms which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or hot springs and/or geothermal vents.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or valleys and basins that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges, and rounded hills which are not visually dominant but which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With oak woodland, paloverde-mixed cacti or riparian deciduous woodland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with creosote bush-bursage combined in strongly defined patterns with desert pavement and/or rockland. or with creosote bush-bursage or saltbush or desert grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as creosote bush-bursage or saltbush or desert grassland that have limited variation in texture and color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

MOHAVE CHARACTER TYPE

Description

The Mohave character type is located in western Arizona, southern Nevada, and eastern California. It encompasses the Colorado River Valley from the northern arm of Lake Mead south to Parker Dam. It is an area of aggraded desert plains and mountain ranges. Elevations vary from 1000 feet along the Colorado River to over 8000 feet at Hualapai Peak.

The area is a flat plain broken by the Colorado River Valley and small ranges of tilted fault block mountains. About a third of the area is occupied by mountains and two-thirds by plains. Generally, the elevations of the plain are 2000 to 3000 feet and the mountains are 3000 to 5000 feet higher. Most of the area has external drainage but there are several oasins or bolsons that drain internally to saline (alkali) lakes whose centers are covered by saline (alkali) marshes. The mountains typically have a jagged crest, a steep scarp slope, and a gentle dip slope. The mountain slopes generally have sharp ridges and V-shaped ravines. Many of the mountains are desert with much of their surface in bare rock.

Vegetation is open to sparse with bare soil or desert pavement and bare rock common to the area. The predominate vegetation throughout the area is creosote bush. Open stands of joshua trees are common in some of the area while pinyon-juniper woodland can be found in the foothills and mountains. Paloverde-mixed cacti, interior chaparral, and desert grassland can be found in the southeastern part of the area. Stringers of riparian deciduous woodland are common along watercourses.

Most of the area has internal drainage except near the Colorado River. Typically dry washes drain to the center of enclosed basins whose centers have saline (alkali) lakes such as Mono, Owens, Searles, and Soda or saline (alkali) marshes. The principle watercourse is the Mohave River that flows east from the San Bernardino Mountains to Soda Lake. The Colorado River, the only perennial watercourse in the area, flows through the eastern part of the area as a swift flowing stream in a deep canyon. Antelope Valley in the western part of the area has places where ground water rises to the surface under artesian pressure.

GREAT BASIN CHARACTER TYPE

Description

The Great Basin character type stretches from southeastern Oregon through Nevada and western Utah into the northwest corner of Arizona. It is an area of several hundred basins that stretches from Oregon to Arizona. It is an area of numerous short, mountain ranges and inter-montane aggraded plains.

The area is characterized by isolated ranges of dissected block mountains separated by aggraded desert plains. About half of the area is occupied by mountains and half by plains. Generally, the mountain ranges are 50 to 75 miles long and 6 to 15 miles wide. Elevations of the plains are usually 3000 to 5000 feet and the mountains are 7000 to 10,000 feet high. The northern mountain ranges are younger and have not eroded as much as the southern mountain ranges. Most of the northern ranges are also smaller with escarpments of several hundred to 2000 feet being common. Most of the area would be classed as absolute desert with the Great Salt Lake Desert in Utah and the Nevada, Black and Smoke Creek Deserts in Nevada covering hundreds of square miles. Shoreline features such as sea cliffs, cut terraces, long bars, and beaches from ancient lakes like Bonneville and Lahontan are visible on some mountain sides in Utah and Nevada. These also are some young lava flows and several hundred volcanoes and cinder cones in the southwestern part of the area.

Vegetation is open to sparse with bare soil or desert pavement and bare rock common to the area. Sagebrush and plains grassland dominate the area. Saltbush-greasewood are common on the fringes of the desert plains. Coniferous forest primarily montane conifer can be found on the slopes of the mountains, particularly in the northern part of the area while pinyon-juniper woodland is common to the foothills and lower mountain slopes. Stringers of riparian deciduous forest and woodland can be found along watercourses.

The mountains are drained by steep, rocky, V-shaped ravines while the plains are drained by broad, shallow, U-shaped dry washes. Some mountain streams are perennial but most flow only in the late winter and early spring. The streams in the desert plains generally flow only during heavy rain showers. Most of the area drains internally to enclosed basins and a few of the basins contain permanent lakes. Pyramid, Winnemucca, and Great Salt Lake are considered permanent but vary greatly in size and are very salty. Most of the basins that do have standing water contain very shallow, saline (alkali) lakes such as Honey Lake in California and North Carson in Nevada, and Sevier in Utah that occasionally even become dry. In the northern part of the area, a few of the lakes overflow and are fresh such as Klamath Lake at the foot of the Cascades. Most of the lakes are in lines at the foot of the Sierra Nevada and Wasatch Mountains and the high plateaus of Utah. All streams, except one, flow from the mountain ranges on the east and west sides of the area. The Humboldt River is the only watercourse that derives its water from an interior basin range.

GRAND CANYON CHARACTER TYPE

Description

The Grand Canyon character type is located in southwestern Utah and northwestern Arizona. It includes the Shivwits, Unikaret, Kanab, Kaibab, Hualapi, and Coconino Plateaus, and the part of the Colorado River that runs through the Grand Canyon. It is an area of high plateaus that are trenched by the Colorado River to form the Grand Canyon. The character type has been divided into two subtypes, the Plateaus and the Canyons, because of differences in physiography.

It is an area of desert and forested plateaus bisected by a deep rugged canyon. North of the Grand Canyon are a series of north-south trending plateaus that stairstep up from the west to east approximately 1000 feet for each plateau. The eastern most plateau attains an elevation of over 9000 feet. Each plateau is separated from the adjacent plateau by an abrupt fault scarp. These plateaus south of the Grand Canyon are areas of gently rolling topography with elevations from 6500 to 7000 feet. The Colorado River flows through the middle nf the area in a deep rugged canyon varying from 5 to 15 miles in width and 3500 to 6000 feet in depth. Its sculptured sides and depth give it a grandeur and impressiveness unequaled anywhere else in the country, thus the name, Grand Canyon.

Sagebrush, plains grassland, and pinyon-juniper woodland dominate the plateaus although the two highest plateaus have some coniferous forest. The vegetation in the bottom of the Grand Canyon is typically riparian desertscrub. Stringers of riparian deciduous forest and woodland are common along watercourses.

The plateaus are generally drained by broad, dry washes that deepen into small canyons as they empty into the Grand Canyon. The Colorado River is the only perennial watercourse in the area. The higher plateaus have seasonally flooded basins or flats, fresh meadows, fresh marshes, and bogs.

Canyons Character Subtype

Description

The Canyons is a subtype of the Grand Canyon character type. It is the area between the mouth of the Paria River (Echo Cliffs) and the Grand Wash fault where the Colorado River runs through the Grand Canyon. It is a deep rugged canyon.

The canyon varies in depth from 3500 to 6000 feet and in width from 5 to more than 15 miles. The grandeur and impressiveness are in large part dependent on the sculpture of the canyon walls. The part of the canyon below the Kaibab Plateau is the deepest (maximum 6000 feet) and, on the whole, the widest; a width of 10 to 15 miles is common. The Canyon walls are highly dissected and intricate. Chasms and deep alcoves give detail to the canyon walls. Most of the walls are a series of terraces with cliffs from a few feet to a hundred feet high. The Redwall formation stands out in a huge cliff several hundred to a thousand feet high. One of the most significant features in this part of the canyon is the Tonto Platform, a terrace 3000 feet below the plateau. It has a gently sloping surface with a maximum width of more than a mile. Below the Kanab Plateau, the canyon changes its form. The Tonto Platform disappears and the Esplanade Shelf appears some 2000 feet higher. The canyon walls are steeper and simpler in this part of the canyon. They are also less dissected by lateral ravines. West of this the canyon changes very little and it ends abruptly at the Grand Wash fault.

Vegetation is sparse with bare soil and rock generally dominant. Sagebrush and pinyon-juniper woodland are found on the canyon walls, while riparian desertscrub is the predominate vegetation in the canyon bottom.

The area is drained by many small dry canyons that empty into the Colorado River. The Colorado River is the principle watercourse in the area.

Plateaus Character Subtype

Description

The Plateaus is a subtype of the Grand Canyon character type. It includes the Shivwits, Unikaret, Kanab, and Kaibab Plateaus north of the Grand Canyon and the Hualapai and Coconino Plateaus south of the Grand Canyon. It is an area of high block plateaus.

North of the Grand Canyon the area is characterized by broad flat plateaus that stair step up from west to east, approximately 1000 feet for each plateau. The eastern most plateau, the Kaibab attains an elevation of over 9000 feet. Each plateau is separated from the adjacent plateau by an abrupt fault scarp. These plateaus are all relatively flat and dissected by shallow open valleys. The Unikaret Plateau has over 160 young volcanic cones and tablelands that are remnants of ancient lava flows. The Kaibab Plateau is the highest and most beautiful. It is an uplift block whose surface is maturely dissected by rounded valleys of gentle slope. South of the Grand Canyon the plateaus have rolling surfaces with a few steep slopes. They are maturely dissected by wide open valleys 100 to 400 feet deep.

Sagebrush, plains grassland, and pinyon-juniper woodland dominate the Shivwits, Unikaret, Kanab, and Hualapai Plateaus. The Kaibab and Coconino Plateaus also have coniferous forests. On the Coconino Plateau the coniferous forest is primarily montane conifer while on the Kaibab Plateau it is about half montane conifer and half subalpine conifer. Mountain meadow grassland and aspen are common to parts of the Kaibab Plateau. Stringers of riparian deciduous forest and woodland are common along watercourses.

The plateaus are drained by dry washes. There are no perennial watercourses. The Kaibab Plateau has several seasonally flooded basins or ponds.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, large volcanic cones, unique volcanic flows, edges of prominent lava flows, and/or sharp, jagged ridges. or with isolated tablelands or tablelands with distinctive form and color contrast that become focal points. or with valleys or canyons with vertical or near vertical walls and/or unusual configurations and colors. or with escarpments or cliffs that dominate the surrounding landscape because of their scale and/or color.	Vegetation is highly varied and distinctive — With subalpine coniferous forest, deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with montane coniferous forest combined in strongly defined patterns with deciduous forest and/or mountain meadow grassland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as saline (alkali) marshes, seasonally flooded basins or flats, fresh meadows, fresh marshes, or bogs.
B–common	Terrain is moderately varied — With broad slopes frequently dissected by shallow canyons and arroyos or extensively dissected plateaus or valleys that are not dramatically defined by adjacent landforms. or with small volcanic cones, tablelands, ridges, and rounded hills that are not visually dominant and which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures, and spacing. or with pinyon-juniper woodland combined in strongly defined patterns with sagebrush or plains grassland. or with sagebrush or plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of undissected or slightly dissected landforms that provide little spacial definition of landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as sagebrush or plains grassland that have very limited variation in texture or color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

HIGH PLATEAUS OF UTAH CHARACTER TYPE

Description

The High Plateaus of Utah character type is located in north-central Arizona and south-central Utah. It includes the Parant, Tushar, Markagunt, Sevier, Paunsagunt, Wasatch, Fish Lake, Awapa, and Aquarius Plateaus. It is an area of high block plateaus, some of which are lava capped. Elevations range from 9000 to 11,000 feet.

It is an area of plateaus in the truest sense, that are divided into three strips by two trenches the Sevier-San Pitch Valley and Grass Valley. The western strip includes the Parant, Tushar, and Markagunt Plateaus. The central strip includes the Sevier and Paunsagunt Plateaus, and the eastern strip includes the Wasatch, Fish Lake, Awapa, and Aquarius Plateaus. Each strip has an escarpment on its westside, therefore, it overlooks the plateaus to the west and slopes to the east. Some of the plateaus such as the Aquarius, Markagunt, Sevier, and Awapa are almost totally lava covered while the Wasatch has no lava at all. Where their surface is not covered by lava, they are maturely dissected into high (500 feet or more), rounded hills. The Parant and Tushar Plateaus have mountains while the other plateaus are generally tabular in form with hills, valleys, and a few sharp canyons. The Aquarius Plateau is the highest and most beautiful. It has numerous lakes that were created by pleistocene age glaciers. The Awapa Plateau, despite its 9000 foot elevation, has a stony, barren volcano surface with no springs or running water. The southern part of the area is a series of rock terraces that are dissected by dry canyons. The terraces are separated by cliffs that vary from a few hundred feet to over 2000 feet. The Cliffs are the Pink, White, Vermillion, and Chocolate and are second only to the Grand Canyon's beauty and grandeur. Bryce Canyon and the Cedar Breaks are features of the Pink Cliffs.

The vegetation of the area is predominately sagebrush, pinyon-juniper woodland and coniferous forest, primary subalpine conifer. Mountain meadow grassland, aspen, plains grassland, oak scrub, mountain mahogany, and saltbrush-greasewood are also common to parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The area is drained by many small, dry washes and canyons. There also are several small perennial watercourses in the higher elevations. The Sevier and Paria Rivers are the principle watercourses in the area. There are a number of small natural lakes on the Aquarius Plateau. There also are a number of man-made lakes or reservoirs that are used for recreation, flood control, and irrigation.

FLAGSTAFF CHARACTER TYPE

Description

The Flagstaff character type is located in central Arizona. It encompasses the San Francisco Plateau and includes the Mt. Floyd, San Francisco, and Upper Verde River Volcanic Fields and the Mogollon Slope. It is a relatively undissected plateau that contains extensive lava flows and volcanic cones.

The area is a vast plain that is covered by lava flows and dotted by several hundred volcanic cones. Occasionally the plateau has been trenched by narrow canyons, such as Chevelon and Diablo. Highest of the volcanic cones are the San Francisco Peaks, 12,700. None of the cones or lava flows are very old. The oldest flows have eroded while the edges of the younger ones are marked by abrupt, rocky slopes preserving the exact form in which the lava congealed. A few of the cones such as Sunset Crater and Coon Butte have funnel-shaped craters on their summits.

Coniferous forest, primarily montane conifer, is the predominant vegetation. There is a small patch of alpine tundra and subalpine conifer on the summit of the San Francisco Peaks. This is the only area of alpine tundra in Arizona. Mountain meadow grassland, aspen, plains grassland, and pinyon-juniper woodland are common to parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The area is drained by dry washes and several small perennial watercourses. Most of the perennial watercourses are in shallow canyons that trench the plateau (Chevelon Canyon, East and West Clear Creeks, and Beaver Creek). There are several man-made lakes or reservoirs and a few natural lakes (Stoneman and Monmon Lake). A few of the reservoirs are used as domestic water supplies (Upper and Lower Lake Mary and Kaibab Lake) while the remainder of the reservoirs and the natural lakes are used primarily for recreation. Seasonally flooded basins and flats, fresh marshes, and bogs are common to parts of the area.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, avalanche chutes, large volcanic cones, volcanic craters, unique volcanic flows, and/or edges of prominent lava flows. or with isolated mountain peaks or mountain peaks with distinctive form and color contrasts that become focal points. or with valleys or canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color and/or texture.	Vegetation is highly varied and distinctive — With alpine tundra, subalpine coniferous forest, deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with montane coniferous forest combined in strongly defined patterns with deciduous forest, mountain meadow grassland, cinders, and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes, reservoirs and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades, and/or pools. or wetlands such as saline (alkali) marshes, seasonally flooded basins or flats, fresh meadows, fresh marshes, or bogs.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or extensively dissected plateaus or valleys that are not dramatically defined by adjacent landforms. or with small volcanic cones, ridges, and rounded hills that are not visually dominant and are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with plains grassland. or with plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Ponds and perennial watercourses with flows less than 10 cfs. that have no unique features. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of undissected or slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as pinyon-juniper woodland or plains grassland that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

TONTO CHARACTER TYPE

Description

The Tonto character type is located in central Arizona. It encompasses the mountainous area between the Mogollon Escarpment and the Gila River. It is a geologically uncomplicated but somewhat dissected mountainous area. The character type has been divided into two sub-types, the Sonoran Arizona Uplands and the Upper Tonto because of differences in physiography and vegetation.

The area varies from desert plains and hills to forested plateaus and mountains. In the vicinity of the Goldfield and Superstition Mountains, topography is sharply angular with steep slopes and cliffs. In the north-central and northwestern part of the character type, there are several deep canyons such as Oak Creek, upper Tonto Creek and the upper portions of the Verde and Salt Rivers.

The vegetation of the area is very complex. It varies from palo-verde-mixed cacti in the lower elevations to coniferous forest in the higher elevations. Interior chaparral, pinyon-juniper woodland, plains grassland and desert grassland are also common in parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The mountains are drained by steep V-shaped canyons and the plains and foothills are drained by dry washes. There are several perennial watercourses primarily in the mountains. Principle perennial watercourses are the Verde and Salt Rivers, and Oak and Tonto Creeks. There also are several large man-made lakes or reservoirs (Bartlett, Horseshoe, Saguaro, Canyon, Apache and Roosevelt) that are used for recreation, flood control, and irrigation.

Sonoran Arizona Uplands Character Subtype

Description

The Sonoran Arizona Uplands is a subtype of the Tonto character type. It includes the Verde and Upper Salt River valleys and extends north of Roosevelt Lake to encompass Tonto Basin. It is an area of rolling hills and low barren mountains. Elevations are generally between 1500 and 3000 feet with some peaks reaching over 5000 feet.

The southwestern part of the area, in the vicinity of the Superstition Mountains and the lower lakes, has very complicated geology. This part of the area is characterized by mountains and mesas consisting of fault block with varying degrees of tilting. Steep slopes and cliffs are common. This part of the area also has many unique rock forms. The Salt River has cut a deep gorge with sheer walls through part of the area. The Verde River drainage and the area around Roosevelt Lake, including Tonto Basin, have less complicated geology. This part of the area is characterized by gently rolling hills but cliffs and mesas are not uncommon.

Bare soil and desert pavement and barren rock are common to the entire area. The predominate vegetation in the lower elevations is sonoran desertscrub while interior chaparral dominates the higher elevations. Dense stands of giant sahuaro (saguaro) cactus and paloverde are found in some parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The mountains are drained by steep, rocky, V-shaped ravines while the hills are drained by broad, U-shaped dry washes. The Verde and Salt Rivers, and Tonto Creek are the principle perennial watercourses. There are several large man-made lakes or reservoirs (Bartlett, Horseshoe, Saguaro, Canyon, Apache, and Roosevelt) in the area that are used for recreation, flood control, and irrigation.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, craggy mountain peaks, well-defined bajadas, and/or sharp jagged ridges. or with isolated mountain peaks or mountain peaks or tablelands with distinctive form and color contrasts that become focal points. or with distinctive gorges, deep valleys, or deep canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color and/or texture.	Vegetation is highly varied and distinctive — With riparian deciduous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with paloverde-mixed cacti combined in strongly defined patterns with riparian deciduous forest and woodland, desert pavement and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation such as specimen stands of giant cacti (sahuaro) which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as saline (alkali) marshes.
B–common	Terrain is moderately varied — With broad slopes frequently dissected by shallow canyons and arroyos or valleys that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges, tablelands, and rounded hills that are not visually dominant but which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders which are subordinate to the surrounding landscape.	Vegetation is moderately varied — With paloverde-mixed cacti or riparian deciduous woodland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with interior chaparral or creosote bush-bursage combined in strongly defined patterns with desert pavement and/or rockland. or with creosote bush-bursage combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as creosote bush-bursage that have very limited variation in texture and color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

Upper Tonto Character Subtype

Description

The Upper Tonto is a subtype of the Tonto character type. It includes the Juniper, Bradshaw, Black Hills, Mazatzal, and Sierra Ancha mountain ranges. It also includes an isolated tract that includes the Superstition and Pinal mountain ranges. It is an area of deeply dissected mountains.

The area is characterized by tablelands (mesas and buttes) that have been carved from an extensive plateau by canyons of a moderate depth. The mountains in the area are generally tilted fault blocks. The Bradshaw Mountains have been folded although no significant faulting has taken place. The Black Hills, Sierra Ancha, Mazatzal and Pinal Mountains are upturned edges of limestone and have sharp angular peaks and steep canyons. The dominant feature in this area is the Mogollon Escarpment or "Rim." This escarpment rises about 1000 to 2000 feet above the rough upper basins of the Verde River and Tonto Creek. The "Rim" is a strong focal feature because its light colored scarp slope contrasts vividly with the surrounding gray-green vegetation.

The predominant vegetation in the higher elevation is coniferous forest primarily montane conifer. At the intermediate and lower elevations, pinyon-juniper woodland and interior chaparral dominate. Isolated areas of oak woodland, plains grassland, and desert grassland are also found in the area. Stringers of riparian decidious forest and woodland are common along watercourses.

The mountains are drained by steep, rocky, V-shaped ravines while the hills are drained by broad, U-shaped dry washes. There are many small perennial streams and a few small man-made lakes or reservoirs (Lynx, Horsethief, and Granite Basin) most of which are found in the higher mountains. The small man-made lakes are used primarily for recreation. The principle perennial watercourses are the Gila, Verde, and Salt Rivers, and Oak, Beaver, Clear, Tonto, and Cherry Creeks.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, craggy mountain peaks, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks or tablelands with distinctive form and color contrast that become focal points. or with distinctive gorges, deep valleys, or deep canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color, and/or texture.	Vegetation is highly varied and distinctive — With montane coniferous forest, deciduous forest, riparian deciduous forest or mountain meadow grassland that exhibit the normal range for sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland or oak woodland combined in strongly defined patterns with desert grassland or plains grassland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding landscape.	Waterform consists of — Reservoirs and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades and/or pools. or wetlands such as saline (alkali) marshes.
B–common	Terrain is moderately varied — With broad slopes frequently dissected by shallow canyons and arroyos or extensively dissected plateaus or valleys that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges, tablelands, and rounded hills which are not visually dominant but which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With pinyon-juniper woodland or oak woodland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with interior chaparral combined in strongly defined patterns with desert grassland, plains grassland, and/or rockland. or with interior chaparral or desert grassland or plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Perennial watercourses with flows less than 10 cfs. that have no unique features. or interrupted watercourses that have unique features such as falls, rapids, cascades and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of rolling or slightly dissected landform that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but are relatively lacking in interest in comparison to the other landforms in the character type.	Vegetation is unvaried — With extensive areas of similar vegetation such as interior chaparral or plains grassland or desert grassland that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

MEXICAN HIGHLAND CHARACTER TYPE

Description

The Mexican Highland character type is located in Sonora and Chihuahua, Mexico, southeastern Arizona, and southwestern and central New Mexico. It includes the Gila, San Pedro, Sulphur Springs, San Simon, and San Bernadino Valleys in Arizona and the Animas, Playas, Hachita, lower Rio Grande, and Tularosa Valleys in New Mexico. It is an area of high aggraded desert plains and mountain ranges. Elevations vary from 4000 to over 10,000 feet. The character type has been divided into two subtypes, Western and Eastern, because of the differences in physiography and vegetation.

The area is a vast, flat plain broken only by the Rio Grande Valley and several ranges of tilted fault block mountains. About a third of the area is occupied by mountains and two-thirds by plains. Generally, the elevation of the plains are 4000 to 5000 feet and the mountains are 3000 to 5000 feet higher. Most of the area has external drainage but there are several large basins or bolsons that drain internally to saline (alkali) lakes. The mountains typically have a jagged crest, a steep scarp slope and a gentle dip slope. The mountain slopes generally have sharp ridges and V-shaped ravines. Many of the mountains are desert with much of their surface in bare rock, frequently brilliant in color.

The vegetation of the area varies from predominately creosote bushbursage, creosote bush-tarbush, desert grassland, and oak woodland in the western part of the area to predominately creosote bush-tarbush, plains grassland, and desert grassland in the eastern part of the area. Coniferous forest is commonly found on most of the higher mountains. Pinyon-juniper woodland and open stands of giant sahuaro (saguaro) cactus are also common in parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The mountains are typically drained by V-shaped canyons and the plains by broad dry washes. Most of the area has external drainage but there are several large basins that drain internally (Sulphur Springs Valley and Tularosa Valley). There are a few small perennial streams and small man-made lakes or reservoirs in the higher mountains and three large reservoirs (Cochiti, Caballo, and Elephant Butte). The three large reservoirs are used for recreation, flood control, and irrigation while the small man-made lakes are used primarily for recreation. The principle perennial watercourses in the area are the Rio Grande and Gila Rivers.

Western Mexican Highlands Character Subtype

Description

The Western Mexican Highlands is a subtype of the Mexican Highland character type. It includes the Gila, San Pedro, Sulphur Springs and San Bernadino Valleys in Arizona and the Animas Valley in New Mexico. It is an area of high aggraded desert plains and isolated mountain ranges. About half of the subtype is occupied by mountains and half by plains. The elevation of the plains is generally 3000 to 5000 feet and the mountains are 3000 to 5000 feet higher. Mount Graham (10,713) is the highest peak in the area.

The area is characterized by vast, flat, valley plains separated by isolated ranges of tilted fault block mountains. Typically the mountains have one main ridge line, but it is not uncommon for a secondary ridge line to parallel the main one. Usually the crest of the mountains are very jagged. Most of the mountain ranges have a steep scarp slope contrasted by a gentle dip slope. Isolated areas of badlands that have unique rock formations can be found in the Dragoon, Santa Teresa, and Chiricahua Mountains. The San Simon and Sulphur Springs Valleys are enormous being over 100 miles long and approximately 20 to 40 miles wide.

The predominate vegetation through the area is desert grassland. Open stands of giant sahuaro (saguaro) cactus and paloverde are common in the western part of the area. Interior chaparral, creosote bush-bursage, and creosote bush-tarbush can also be found in parts of the area. Oak woodland and pinyon-juniper woodland generally dominate the lower slopes of the mountains while coniferous forest primarily montane conifer can be found on the upper slopes of the higher mountains. Stringers of riparian deciduous forest and woodland are common along watercourses.

The mountains are drained by steep, V-shaped canyons while the plains are generally drained by broad, shallow dry washes. Most of the area has external drainage but the Sulphur Springs Valley drains internally to the Willcox Playa, a very large alkaline lake. There are several small perennial watercourses and man-made lakes or reservoirs (Riggs Flat, Rucker, Fry Mesa, Rose Canyon, Parker Canyon and Lake Patagonia) most of which are found in the higher mountains. The man-made lakes or reservoirs are used primarily for recreation.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, badlands, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks with distinctive form and color contrast that become focal points. or with valleys or canyons with vertical or near vertical walls and/or unusual configuration or colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color, and/or texture.	Vegetation is highly varied and distinctive — With subalpine and montane coniferous forest, deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with oak-pine woodland, oak woodland, pinyon-juniper woodland, or paloverde-mixed cacti combined in strongly defined patterns with riparian deciduous forest and woodland, plains or desert grassland, desert pavement, and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation such as specimen stands of giant cacti (sahuaro) or Arizona cypress which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as saline (alkali) marshes.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or valleys and basins that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges, and rounded hills which are not visually dominant but which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with features such as bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With oak-pine woodland, oak woodland, pinyon-juniper woodland or paloverde-mixed cacti that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with creosote bush-tarbush or creosote bush-busage or desert grassland or interior chaparral combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of slightly dissected landform that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but relatively lacking in visual interest in comparison to the other landforms in the character subtype.	Vegetation is unvaried — With extensive areas of similar vegetation such as creosote bush-tarbush or creosote bush-bursage or desert grassland that have very limited variation in texture and color.	Waterform consists of — Emphemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

Eastern Mexican Highland Character Subtype

Description

The Eastern Mexican Highland is a subtype of the Mexican Highland character type. It includes the Rio Grande Valley, south of Espanola, and the Playas, Hachita, and Tularosa Valleys. It appears as a vast, flat plain broken by the Rio Grande Valley and several isolated mountain ranges. The elevation of the plains decreases gradually from 6800 feet at Santa Fe to 3500 feet at the southern end of the Tularosa Valley. Sandia Crest (10,678 feet) and Manzano Peak (10,098 feet) are the highest points in the area.

The area is characterized by two fairly continuous flat-floored troughs, Jornada del Muerto (Rio Grande Valley) and Tularosa Valley, separated by a series of tilted, fault block mountains. Typically the mountains have one main ridgeline, but it is not uncommon for a secondary ridgeline to parallel the main one. The mountains along the east side of the Rio Grande Valley (Sandia, Manzano, Fra Cristobal, Caballo, and Organ) have abrupt escarpments on their west side and gentle dip slopes on their east sides. The escarpment in the San Andres Range, however, is on the east side and rises almost 3000 feet above the Tularosa Valley. There are two large lava flows in the area. The flow on the southeast side of Chupadera Mesa is a recent and unweathered flow that extends 44 miles south into the Tularosa Valley and is about five and a half miles wide. The Tularosa Valley is a flat desert plain that is 125 miles along in New Mexico and the center of the valley is occupied by a large saline (alkali) marsh that covers 165 square miles. East of the saline marsh is a belt of gypsum dunes 6 to 12 miles wide and locally 100 feet high (White Sands National Monument). The Jornada del Muerto is a broad trough that contains the Rio Grande River. The river occupies a graben, or elongated block that has shifted down along faults.

Creosote bush-tarbush and desert grassland dominate the southern part of the area while desert grassland and plains grassland dominate the northern part of the area. Dense stands of cottonwood, mesquite, and tamarisk called bosques are common along the Rio Grande River. Pinyon-juniper woodland dominates the foothills and low mountains while coniferous forest primarily montane conifer can be found on the slopes of the higher mountains. Stringers of riparian deciduous forest and woodland are common along watercourses.

The mountains are drained by steep, V-shaped canyons while the plains are generally drained by broad, shallow, dry washes. The Jornada del Muerto is drained by the Rio Grande River, largest perennial watercourse in the area, while the Tularosa Valley drains internally to Lake Lucero, a large saline (alkali) lake. There are a few small perennial watercourses (Las Huertas, Trigo, and Tajique) in the higher mountains and three large reservoirs (Cochiti, Caballo and Elephant Butte). The reservoirs are used for recreation, flood control, and irrigation.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, volcanic cones, unique lava flows, edges of prominent lava flows, gypsum sand dunes, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks with distinctive form and color contrast that become focal points. or with valleys or canyons with vertical or near vertical walls and/or unusual configuration or colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color, and/or texture.	Vegetation if highly varied and distinctive — With subalpine and montane coniferous forest, deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with plains grassland or desert grassland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation such as mesquite bosques or rocky mountain maple which create unusual forms, colors, or textures, in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as saline (alkali) marshes.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or valleys and basins that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges, and rounded hills which are not visually dominant but which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with features such as bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With pinyon-juniper woodland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with creosote bush-tarbush or desert grassland or plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of slightly dissected landform that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but relatively lacking in visual interest in comparison to the other landforms in the character subtype.	Vegetation is unvaried — With extensive areas of similar vegetation such as creosote bush-tarbush or desert grassland or plains grassland that have very limited variation in texture and color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

DATIL CHARACTER TYPE

Description

The Datil character type is located in east-central Arizona and west-central New Mexico. It includes the White and Gila Mountains, and Natanes Plateau in Arizona, and the Mogollon, Tularosa, San Mateo, Datil, Gallinas, and Black Range Mountains and the Plains of San Augustin in New Mexico. It is an area dominated by extensive lava flows and associated volcanic features.

The area is characterized by plateaus, tablelands, and domed mountains. Most of the features in the area are of volcanic origin. The Socorro, Magdalena, and San Mateo Mountains in the eastern part of the area are broad masses of lava and fragmental material. Along the southern boundary the mountains are irregularly tilted fault blocks, fragments of the plateau that have suffered displacement and erosion and are frequently bordered by a fringe or irregular belt of badlands carved from a conglomerate. The mountains in the west and north are volcanic cones and domes. There are hundreds of volcanic necks near Mt. Taylor in the northern part of the area. Cabezon Peak, northeast of Mt. Taylor, is one of the more prominent necks. South of Mt. Taylor there is a large, very recent, lava flow. The plains of San Augustin, a prominent bolsum, are located in the eastern part of the area.

The areas vegetation is very complex. Coniferous forest primarily montane conifer dominates the higher elevations although subalpine conifer can be found on some of the higher peaks. Pinyon-juniper woodland and plains grassland dominate the lower elevations. Mountain meadow grassland, aspen, oak woodland, and desert grassland are common to parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The area is drained primarily by small perennial watercourses. Principle watercourses in the area are the San Francisco, Black, Gila, and Mimbres Rivers. There are several man-made lakes or reservoirs, Big Lake at 570 acres being the largest, and a few small natural lakes. All are used primarily for recreation. The reservoirs are used for irrigation and recreation. Seasonally flooded basins or flats, fresh meadows, fresh marshes and bogs are common to parts of the area.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, craggy mountain peaks, volcanic necks, large volcanic cones, unique volcanic flows, edges of prominent lava flows, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks or domes or tablelands with distinctive form and color contrast that become focal points. or with deep valleys or deep canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color and/or texture.	Vegetation is highly varied and distinctive — With subalpine coniferous forest, deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with montane coniferous forest combined in strongly defined patterns with deciduous forest, mountain meadow grassland and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes, reservoirs and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades, and/or pools. or wetlands such as saline (alkali) marshes, seasonally flooded basins or flats, fresh meadows, fresh marshes, or bogs.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or valleys that are not dramatically defined by adjacent landforms. or with mountain peaks, domes, small volcanic cones, tablelands, ridges, and rounded hills which are not visually dominant and are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with features such as bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures and spacings. or with pinyon-juniper woodland or oak-woodland combined in strongly defined patterns with plains grassland. or with plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Ponds and perennial watercourses with flows less than 10 cfs. that have no unique features. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of rolling or slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but relatively lacking in visual interest in comparison to the other landforms in the character type.	Vegetation is unvaried — With extensive areas of similar vegetation such as pinyon-juniper woodland and plains grassland that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

NAVAJO CHARACTER TYPE

Description

The Navajo character type is located in southeastern Utah, southwestern Colorado, northeastern Arizona, and northwestern New Mexico. It includes the Painted Desert, Navajo Basin, Defiance Plateau, San Juan Basin, and the Chuska, Zuni, and San Mateo mountain ranges. It is an area of young plateaus with broad open valleys.

The area is characterized by horizontal sandstone beds that have been subject to great erosion creating tablelands, cuestas, rock terraces, retreating escarpments, shallow canyons, and dry washes. In some parts of the area volcanic necks and tablelands are abundant. Shiprock in northwestern New Mexico is a prominent volcanic neck. The Chuska Mountains, part of the Defiance monocline, are a narrow strip of uplands that are generally above 8000 feet with exceptional tablelands 1000 feet higher. The Zuni Mountains in the southern part of the area are a domal uplift that culminates in Mt. Sedgwick (9700 feet). The general slope in both the Chuska and Zuni Mountains is not very steep. There are two synclinal basins in the area; the San Juan Basin in the eastern part of the area and the Navajo Basin in the western part of the area, separated by the Defiance monocline. Black Mesa, a dissected plate of sandstone 60 miles in diameter, dominates the central portion of the Navajo Basin. It has outfacing cliffs on all sides and on the north and east they are almost continuous and rise 1200 to 2000 feet above the plateau below. In the western part of the area is the famed "Painted Desert," an area of startling red, yellow, chocolate, and white rocks.

Vegetation is open to sparse with bare soil and bare rock common. Pinyon-juniper woodland, plains grassland, saltbush, and sagebrush dominate most of the area. Coniferous forest primarily montane conifer can be found on the slopes of the Zuni and Chuska Mountains. Stringers of riparian deciduous forest and woodland are common along watercourses.

The area is drained primarily by broad, sandy, dry washes. The San Juan and Little Colorado Rivers are the principle watercourses. There are a few small man-made lakes or reservoirs in the area and one large one, Navajo Lake. The small man-made lakes are used primarily for recreation while Navajo Lake is used for recreation, flood control, and irrigation.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as cuestas, large playas, volcanic necks, volcanic dikes, unique volcanic flows, edges of prominent lava flows, badlands, and/or rock monuments. or with isolated mountain peaks or mountain peaks or tablelands with distinctive form and color contrast that become focal points. or with valleys and canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments or cliffs that dominate the surrounding landscape because of their scale and/or color.	Vegetation is highly varied and distinctive — With subalpine coniferous forest, deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with montane coniferous forest combined in strongly defined patterns with deciduous forest or mountain meadow grassland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation, such as tamarisk, which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as saline (alkali) marshes.
B–common	Terrain is moderately varied — With broad slopes frequently dissected by shallow canyons and arroyos or valleys that are not dramatically defined by adjacent landform. or with mountain peaks, tablelands, ridges, and rounded hills that are not visually dominant and which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with sagebrush or plains grassland. or with sagebrush or plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as sagebrush or plains grassland that have very limited variation in texture and color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

CANYON LANDS CHARACTER TYPE

Description

The Canyon Lands character type is located in northeastern Arizona, southeastern Utah, and southwestern Colorado. It includes the Rainbow Plateau, the Rock Terraces of southern Utah and Segi Mesas. It is an area of plateaus dissected by young to mature canyons.

The area is characterized by cuestas, cliffs, and canyons. The Colorado River flows through the middle of the area in a deep rugged canyon with many similar side canyons hundreds, some thousands, of feet deep. In the most dissected part, mainly near the Colorado River, the original plateau surface is left standing only in wandering ridges and irregular remnants. No other large plateau in the United States has the ruggedness of the Canyon Lands. The part of the area in northeastern Arizona is not so deeply eroded. Monument Valley in northeastern Arizona and southeastern Utah is an area of great steep sided mesas and buttes of red sandstone rock. These mesas and buttes are erosion remnants and are called "monuments" because they are much higher than they are wide and often resemble living things of man. Segi Mesas in northeastern Arizona is an area of mesas stacked on top of each other. Navajo Mountain, a young laccolith, in southeastern Utah is the highest point in the area rising to 10,416 feet.

Vegetation is open to sparse with bare soil and rock common. Pinyon-juniper woodland and sagebrush dominate most of the area. Plains grassland, blackbrush, and saltbush can also be found in parts of the area and there is a small patch of coniferous forest on the summit of Navajo Mountain in southeastern Utah. Stringer of riparian deciduous forest and woodland are common along watercourses.

The area is drained by dry, often rugged, canyons. The Colorado and Green Rivers are the principle wateroourses in the area. Lake Powell on the Colorado River, in southeastern Utah, is a large man-made lake or reservoir that is used for recreation, flood control, and irrigation.

SAN JUAN CHARACTER TYPE

Description

The San Juan character type is located in north-central New Mexico and south-central Colorado. It includes the Nacimiento, Tusas, and Jemez Mountains in New Mexico and the San Juan and West Elk Mountains in Colorado. It is a volcanic area of complex mountains separated by intermontane basins.

The area is characterized by mountains that have for the most part rounded and smoothed crests, some even have flat tops, and sharp V-shaped canyons with steep walls. The area is a maturely dissected plateau with coarse texture (the streams are relatively far apart). Landslides are common to the mountains in this area. The Nacimiento and Tusas Mountains are flat topped ranges that form the western boundary of the area. San Antonio Mountain, almost 11,000 feet, is a huge volcanic dome on eastside of the Tusas Mountains. A series of impressive hogback ridges stretch nearly 40 miles along the west face of the Nacimiento Mountains. The Jemez Mountains in the southern part of the area are typified by thick ash falls and tuffs that have weathered to form interesting cliffs and by sedimentary beds that have eroded to expose colorful formations of yellow sandstone and dazzling red-beds. The Valle Grande, one of the worlds largest calderas and one of the areas most spectacular sights, is found in the Jemez Mountains. The San Luis Valley, a broad, flat structural basin dominates the northeastern part of the area. Beginning at the New Mexico stateline the Rio Grande has cut a spectacular fifty mile long gorge through the lava covered valley floor that in some places is over a 1000 feet deep.

Coniferous forest is the predominant vegetation in the mountains. Montane conifer generally dominates the lower mountain slopes while subalpine conifer dominates the upper mountain slopes. Pinyon-juniper woodland, plains grassland and sagebrush dominate the basins. Aspen and mountain meadow grassland are common to parts of the area. Riparian deciduous forest and woodland are common along watercourses.

The area is drained primarily by small perennial watercourses. The principle watercourse in the area is the Rio Grande River. There are several man-made lakes or reservoirs in the area that are used primarily for recreation. The area, particularly the Jemez Mountain area, is noted for its hot springs. Fresh meadows, fresh marshes, and bogs are common to parts of the area.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as avalanche chutes, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks or domes with distinctive form and color contrast that become focal points. or with distinctive gorges, deep valleys, or deep canyons with vertical or near vertical walls and/or unusual configuration or colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color and/or texture.	Vegetation is highly varied and distinctive — With deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, or spacings. or with subalpine or montane coniferous forest combined in strongly defined patterns with deciduous forest, mountain meadow grassland and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes, reservoirs and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades, and/or pools. or wetlands such as fresh meadows, fresh marshes, or bogs. or hot springs and/or geothermal vents.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or extensively dissected plateaus or valleys that are not dramatically defined by adjacent landforms. or with mountain peaks, domes, ridges, and rounded hills that are not visually dominant and which are surrounded by similar landforms. or with canyons or drainages that lack distinctive configuration or colors. or with features such as bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With subalpine or montane coniferous forest that exhibit the normal ranges of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with sagebrush or plains grassland. or with plains grassland or pinyon-juniper woodland or sagebrush combined with riparian deciduous woodland in patterns that offer some relief. or with subtle seasonal color contrasts.	Waterform consists of — Ponds and perennial watercourses with flows less than 10 cfs. that have no unique features. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of rolling or slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but relatively lacking in visual interest in comparison to the other landforms in the character type.	Vegetation is unvaried — With extensive areas of similar vegetation such as sagebrush or plains grasslands that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

WEST RANGE CHARACTER TYPE

Description

The West Range character type is located in north-central New Mexico and south-central Colorado. It encompasses the Sangre de Cristo range which includes the Culebra, Taos, Cimmarron, Santa Fe, and Picuris Mountains in New Mexico. It is an area of complex mountains separated by park-like intermontane basins.

The area is characterized by mountains that have highly dissected slopes, sharp, angular, ridgetops and deep V-shaped canyons. The Sangre de Cristo range is a steep anticlinal uplift, granite cored and flanked by sedimentaries which, at places, overarch the crest. On the eastside of the range is a dissected plateau 20 to 30 miles wide which slopes to the east. Features due to glaciation (cirques, glacial troughs, deep valleys, and sharp combs) are prominent in the Colorado part of the range and are occasionally evident in New Mexico. The mountains in this area are massive mountains for New Mexico with summits ranging from 11,000 feet to over 13,000 feet. Wheeler Peak in the Taos Mountains (13,160 feet) is the highest point in New Mexico. In New Mexico, Wheeler, Latir, Jicarita, Truchas, Pecos Baldy and Santa Fe Baldy all rise above timberline. Red River, Cimmarron, and Rio Hondo Canyons are impressive deep V-shaped valleys. The Moreno Valley between the Cimmarron and Taos Mountains is one of the more prominent intermontane basins.

Coniferous forest is the predominant vegetation. Montane conifer generally dominates the lower mountain slopes while subalpine conifer dominates the upper mountain slopes. Pinyon-juniper woodland and plains grassland can be found in the foothills at the base of the mountains. Aspen and mountain meadow grassland are common to parts of the area. Alpine tundra can be found on the summits of several of the higher mountain peaks. Stringers of riparian deciduous forest and woodland are common along watercourses.

The area is drained primarily by small perennial watercourses. The Red and Pecos Rivers are the principle watercourses in the area. There are several man-made lakes or reservoirs and a number of small natural lakes in the area that are used primarily for recreation. Most of the natural lakes are found in glacial cirques in the higher mountains. Fresh meadows, fresh marshes, and bogs are common to parts of the area.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as unique glacial forms (cirques, crags, combs, and aretes), avalanche chutes, sharp mountain peaks, and/or sharp, jagged ridges. or with deep valleys or deep canyons with vertical or near vertical walls and/or unusual configuration or colors. or with escarpments, cliffs or talus slopes that dominate the surrounding landscape because of their scale, color and/or texture.	Vegetation is highly varied and distinctive — With alpine tundra, deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with subalpine or montane coniferous forest combined in strongly defined patterns with deciduous forest, mountain meadow grassland, and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes, reservoirs, and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades and/or pools. or wetlands such as fresh meadows, fresh marshes, or bogs.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or valleys that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges, and rounded hills that are not visually dominant and are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with features such as bluffs and groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With subalpine or montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with plains grassland. or with plains grassland or pinyon-juniper woodland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Ponds and perennial watercourses with flows less than 10 cfs. that have no unique features. or interrupted watercourses that have unique features such as falls, rapids, cascades and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of rolling or slightly dissected landforms that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but relatively lacking in visual interest in comparison to the other landforms in the character type.	Vegetation is unvaried — With extensive areas of similar vegetation such as plains grassland or pinyon-juniper woodland that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

SACRAMENTO CHARACTER TYPE

Description

The Sacramento character type is located in west Texas and southern New Mexico. It includes the Gallinas, Jicarilla, Sacramento, Capitan and Guadalupe Mountain ranges in New Mexico and the Delaware mountain range in Texas. It is an area of mature block mountains of gently tilted strata rising from high desert plains. Elevations vary from slightly over 3000 feet on the plains floor to 12,003 feet at Sierra Blanca Peak.

The area is characterized by block mountains, block plateaus, and bolsons. North of Mesa Jumanes, the area is more or less plateau-like and undissected. South of Mesa Jumanes, the area is faulted, strongly sloping and dissected. Cuestas and plateau-like topography are typical to the area and faults are common but have not produced pronounced tilted blocks. The Jicarilla, Sacramento, Guadalupe and Delaware Mountains are all monoclinal ranges with fault scarps on their west and gentle slopes, plateau-like though maturely dissected, on their east sides. The Capitan Mountains are a volcanic spur. The plain north of Mesa Jumanes is dominated by the Estancia Valley or Sandoval Bolson, a prominent representation of the great bolsons which characterize the basin and range physiography province. The center of the bolson is occupied by saline (alkali) lakes and clay hills which are actually dunes. Capitan Reef, noted for its many caves (Carlsbad Caverns National Park) and spectacular canyons is found in the southeastern parts of the area.

Creosote bush-tarbush, desert grassland, and plains grassland are the predominate vegetative communities in the valleys and basins. Pinyon-juniper woodland dominates the foothills and lower slopes of the mountains while coniferous forest, primarily montane conifer, can be found on the upperslopes of the higher mountains. Stringers of riparian deciduous forest and woodland are common along watercourses.

The mountains are drained by steep V-shaped canyons while the plains are generally drained by broad shallow dry washes. The west side of the area drains to the Tularosa Valley, the east side drains to the Pecos Valley, and the northern part drains internally to several small saline (alkali) lakes. There are several perennial watercourses (Rio Hondo, Ruidoso River, Bonito Creek, and Eagle Creek) and a few small man-made lakes or reservoirs (Bonito and Nogal Lakes) in the area. Bonito Lake is used primarily as a domestic water supply while Nogal Lake is used primarily for recreation. Fresh meadows, fresh marshes, and bogs are common to parts of the area.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as cuestas, large playas, and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks with distinctive form and color contrasts that become focal points. or with deep valleys or deep canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, texture and/or color.	Vegetation is highly varied and distinctive — With subalpine coniferous forest, deciduous forest, riparian deciduous forest or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with montane coniferous forest combined in strongly defined patterns with deciduous forest, mountain meadow grassland, and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation, such as oak woodland, which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades, and/or pools. or wetlands such as saline (alkali) marshes, fresh meadows, fresh marshes, or bogs.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or valleys and basins that are not dramatically defined by adjacent landforms. or with mountain peaks, ridges and rounded hills which are not visually dominant but which are surrounded by similar landforms. or with canyons and drainages that lack distinctive configuration or colors. or with features such as bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with desert grassland or plains grassland. or with creosote bush-tarbush or desert grassland or plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Perennial watercourses with flows less than 10 cfs. that have no unique features. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of undissected or slightly dissected landform that provide little illusion of spacial definition or landmarks with which to orient. These expanses may be sloping but relatively lacking in interest in comparison to the other landforms in the character type.	Vegetation is unvaried — With extensive areas of similar vegetation such as creosote bush-tarbush or desert grassland or plains grassland that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

PECOS VALLEY CHARACTER TYPE

Description

The Pecos Valley character type is located in west Texas and east-central New Mexico. It is a long trough bounded on the west by the east slope of the Sacramento Mountains, on the north by the south facing slope of the Las Vegas Plateau and on the east by the escarpment of the Llano Estacado Cuesta. It is a basin with an uneven floor part of which is covered by alluvium.

The area varies from flat plains to rocky canyon lands. The northern part of the Pecos Valley has an uneven surface. This part of the area is characterized by cuestas, terraces, and small mesas. The southern part of the Pecos Valley is a relatively smooth alluvium-filled basin. The Pecos Valley is bordered on the east by almost continuous bluffs. Between the bluffs on the east side of the Pecos Valley and the escarpment of the Llano Estacado Cuesta is a sloping, alluvium-mantled plain. The Canadian Basin in the northeastern part of the area is characterized by terraces, mesas, cliffs, and canyons, many of which have been cut in bright red sandstone.

Creosote bush-tarbush, desert grassland and plains grassland are the predominate vegetative communities in the area. In parts of the area shinnery oak occurs in combination with the creosote bush-tarbush and grassland communities. Pinyon-juniper woodland is also common to parts of the area. Stringers of riparian deciduous forest and woodland are common along watercourses.

The Pecos Valley part of the area is generally drained by broad shallow dry washes that drain to the Pecos River. The Canadian Basin part of the area is drained by small canyons that drain to the Canadian River. The Pecos and Canadian Rivers are the only perennial watercourses in the area. There are several man-made lakes or reservoirs (Ute on the Canadian River and Alamogordo, Van, McMillian, Avalon, and Red Bluff on the Pecos River) that are used for recreation, flood control, and irrigation.

RATON CHARACTER TYPE

Description

The Raton character type is located in northeastern New Mexico and southeastern Colorado. It includes the Las Vegas and Parks Plateaus and Raton Mesa. It is a peneplain surmounted by dissected, lava capped plateaus and bluffs.

The area is characterized by high mesas, dissected plateaus, deep canyons and volcanic mountains. The Las Vegas Plateau occupies the southern half of the area. It is a stratum plain trenched by canyons and surmounted by volcanic buttes, lava cones and remnantal mesas. This part of the area has a few volcanic cones, like Capulin in southern Colorado, that have not been affected by erosion and many volcanic necks near Mesa de Maya that are remnants of eroded volcanic cones. The Park Plateau is located in the northwest part of the area. It is a dissected highland that abuts the mountains in Colorado and New Mexico. Though not of volcanic origin the Park Plateau has some noteworthy features of igneous origin such as Spanish Peaks (13,623 feet). The Spanish Peaks are two mountains that have eroded but have retained conical forms. Raton Mesa is located in the northeastern part of the area. It is an area of lava-capped remnants of a higher plain. The mesas in this part of the area are separated by gaps in the lava cap that have been removed by erosion. The largest remnant is Mesa de Maya, Spanish for "table of mail."

Plains grassland is the predominate vegetation. Pinyon-juniper woodland is also common to parts of the area. Montane conifer can be found on the slopes of the mountains and small patches of mountain meadow grassland and alpine tundra can be found on some of the higher peaks. Stringers of riparian deciduous forest and woodland are common along watercourses.

Most of the area is drained by V-shaped canyons but the northwestern part of the area is drained primarily by small perennial watercourses. The principle watercourses in the area are the Cimarron, Mora and Canadian Rivers. There are several man-made lakes or reservoirs in the area, largest of these is Conchas Reservoir, that are used for recreation, irrigation and flood control. There also are many small natural lakes that are used primarily for recreation. Fresh meadows, fresh marshes, and bogs can be found in parts of the area.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With such features as large playas, volcanic necks, large volcanic cones and/or sharp, jagged ridges. or with isolated mountain peaks or mountain peaks or tablelands with distinctive form and color contrast that become focal points. or with valleys or canyons with vertical or near vertical walls and/or unusual configuration and colors. or with escarpments, cliffs, or talus slopes that dominate the surrounding landscape because of their scale, color, and/or texture.	Vegetation is highly varied and distinctive — With subalpine coniferous forest, deciduous forest, riparian deciduous forest, or mountain meadow grassland that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with montane coniferous forest combined in strongly defined patterns with deciduous forest, mountain meadow grassland, and/or rockland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Lakes, reservoirs, and perennial watercourses with flows greater than 10 cfs. or perennial watercourses with flows less than 10 cfs. that have unique features such as falls, rapids, cascades, and/or pools. or wetlands such as saline (alkali) marshes, fresh meadows, fresh marshes, or bogs.
B–common	Terrain is moderately varied — With broad slopes which may be steep but stable or extensively dissected plateaus or valleys that are not dramatically defined by adjacent landforms. or with small volcanic cones, tablelands, ridges, and rounded hills that are not visually dominant and are surrounded by landforms of a similar type. or with canyons and drainages that lack distinctive configuration or colors. or with bluffs or groups of boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With montane coniferous forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland combined in strongly defined patterns with plains grassland. or with plains grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Ponds and perennial watercourses with flows less than 10 cfs. that have no unique flow season. or interrupted watercourses that have unique features such as falls, rapids, cascades and/or pools during their flow season.
C–minimal	Terrain is unvaried — With vast expanses of slightly dissected landform that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as pinyon-juniper woodland or plains grassland that have very limited variation in texture and color.	Waterform consists of — Interrupted and ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

HIGH PLAINS CHARACTER TYPE

Description

The High Plains character type includes eastern Wyoming, Colorado and New Mexico, western Nebraska and Kansas, and the panhandles of Oklahoma and Texas. It is a north-south belt of highland which slopes gradually eastward from the Rocky Mountains and stretches from the South Dakota stateline almost to the Rio Grande River. It is an uneroded alluvial plain.

The area is characterized by vast monotonously flat plains. In New Mexico and Texas an area of 20,000 square miles is almost untouched by erosion. North of this part of the area the drainage from the mountains is eastward across the belt of the High Plains and the flatness is preserved only between the streams Among the few and generally insignificant features of relief on the uneroded High Plains are saucer-like depressions, which are actually circular basins varying in diameter from a few rods to a mile and in depth from a few feet to 30 or 40 feet. Some of these basins retain temporary ponds after rains while a few of the deeper ones contain water all the time. Sand dunes are common to the area generally along the leeward sides of rivers. From Nebraska north, hills of sand are common and occupy patches from a few square miles to a few hundred miles.

Plains grassland is the predominate vegetation. Pinyon-juniper woodland, desert grassland, and shinnery oak in combination with the grassland communities are common to parts of the area. Large tracts of cultivated land are also a common occurrence. Stringers of riparian deciduous forest and woodland are common along watercourses.

The area is drained by braided streams that flow in long, parallel nearly straight courses. The North and South Platte, Arkansas and Canadian Rivers are the principle watercourses in the area. With the exception of the Canadian River which runs through a well defined valley nearly 1000 deep and 5 to 20 miles wide, the other principle watercourses have broad, shallow valley bottoms, 1 to 10 feet below the adjacent uplands. There are many large and small man-made lakes or reservoirs that are used for recreation, irrigation, and flood control.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With features such as large playas, sand dunes, and/or sharp ridges. or with isolated tablelands or hills with distinctive form and color contrast that become focal points. or with valleys or shallow canyons with vertical or near vertical walls and/or unusual configuration and colors. or with bluffs or groups of boulders that dominate the surrounding landscape because of their scale, texture, and/or color.	Vegetation is highly varied and distinctive — With riparian deciduous forest that exhibit the normal ranges of sizes, forms, colors, textures, and spacings. or with pinyon-juniper woodland or shinnery oak combined in strongly defined patterns with plains grassland or desert grassland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as saline (alkali) marshes or seasonally flooded basins or flats.
B–common	Terrain is moderately varied – With broad slopes frequently dissected by shallow canyons and drainages or valleys that are not dramatically defined by adjacent landforms. or with ridges, rounded hills and expanses of rolling or slightly dissected landforms which are not visually dominant and are surrounded by similar landforms. or with shallow canyons and drainages that lack distinctive configuration or colors. or with features such as boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With pinyon-juniper woodland and shinnery oak that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with cultivated land in strongly defined patterns with plains grassland. or with plains grassland or desert grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — with vast expanses of undissected landforms that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as plains grassland or desert grassland that have very limited variation in texture and color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

OSAGE PLAINS CHARACTER TYPE

Description

The Osage Plains character type stretches from south-central Kansas through central Oklahoma into north-central Texas. It is the area of old scarped plains between the Arkansas River and the Brazos River. It is a plain of low relief, interrupted at intervals by east-facing escarpments.

The area is characterized by scarped plains with intrenched streams. Escarpments (cuestas) and smooth plains alternate throughout most of the area. Hilly belts and smooth belts are patchy. The two most noteable hilly belts are the Arbuckle Upland and the Wichita Mountains. The Wichita Mountains vary from low rounded hills to steep, rugged mountains that rise 1500 feet above the plain. The Wooded Hills in the Arbuckle Upland rise 50 to 100 feet above the surrounding plain. The rivers of Oklahoma from the Salt Fork of the Arkansas River to the Canadian River have belts of sand dunes up to 15 miles wide generally along their northeast sides.

Prairie grassland is the predominate vegetation. Mesquite in combination with prairie grassland is common to the southwestern part of the area while live oak in combination with prairie grassland is common to the eastern part of the area. A small patch of oak-hickory forest can be found in the northeastern part of the area. Riparian deciduous forest and woodland are common along watercourses.

The area is drained by braided streams that flow in long, parallel nearly straight courses. The Red, Canadian and Arkansas Rivers are the principle watercourses in the area. Most of the drainages are unusually straight and their channels lie 100 to 200 feet below the level of the surrounding upland. They also are generally parallel to one another. All the rivers, except the Washita, have wide sandy channels that are occasionally subdivided by bars. There are many large and small man-made lakes and reservoirs, largest of these is Lake Texoma, that are used for recreation, irrigation, and flood control.

	landform	vegetation	waterform
A–distinctive	Terrain is highly varied and distinctive — With features such as cuestas, sand dunes, and/or sharp, jagged ridges. or with low mountains or hills with distinctive form and color contrast that become focal points. or with valleys or shallow canyons with vertical or near vertical walls and/or unusual configuration and colors. or with bluffs or groups of boulders that dominate the surrounding landscape because of their scale, texture, and/or color.	Vegetation is highly varied and distinctive — With riparian deciduous forest or oak-hickory forest that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with live oak combined in strongly defined patterns with prairie grassland. or with dramatic displays of seasonal color. or with extra large or otherwise unique stands of vegetation which create unusual forms, colors, or textures in comparison to the surrounding vegetation.	Waterform consists of — Reservoirs and perennial watercourses. or interrupted watercourses that have unique features such as falls, rapids, cascades, and/or pools during their flow season. or wetlands such as seasonally flooded basins or flats.
B–common	Terrain is moderately varied — With broad slopes frequently dissected by shallow canyons and drainages or valleys that are not dramatically defined by adjacent landforms. or with ridges, rounded hills, and expanses of rolling or slightly dissected landforms which are not visually dominant and are surrounded by similar landforms. or with shallow canyons and drainages that lack distinctive configuration or colors. or with features such as boulders that are subordinate to the surrounding landscape.	Vegetation is moderately varied — With live oak that exhibit the normal range of sizes, forms, colors, textures, and spacings. or with mesquite combined in strongly defined patterns with prairie grassland. or with prairie grassland combined with riparian deciduous woodland in patterns that offer some visual relief. or with subtle seasonal color contrasts.	Waterform consists of — Interrupted watercourses.
C–minimal	Terrain is unvaried — With vast expanses of undissected landforms that provide little illusion of spacial definition or landmarks with which to orient.	Vegetation is unvaried — With extensive areas of similar vegetation such as prairie grassland that have very limited variation in texture and color.	Waterform consists of — Ephemeral watercourses. or absent.

A–distinctive

B–common

C–minimal

SENSITIVITY LEVELS

The National Forest Visual Management System requires a frame of reference and criteria for the identification and classification of people's concern for scenic quality (sensitivity level). This is done for land areas that are viewed by those who: are traveling through the Forest on developed roads and trails; are using areas such as campgrounds and visitor centers; or are recreating at lakes, streams, or other water bodies.

Two steps are involved in determining sensitivity level.

Step One - All travel, routes, use areas, and water bodies are identified as being of either primary, secondary, or tertiary importance within the area of consideration (see Figure 1).

Step Two - The major or minor concern of the user for scenic quality is identified in this step. Major concern for aesthetics is usually expressed by people who are driving for pleasure, hiking scenic trails, camping in developed campgrounds,, or using lake and streams with other forms of recreational activity. Minor concern for aesthetics is usually expressed by those people involved with daily commuter driving, hauling forest products, working in the woods, or other commercial uses of the Forest.

After importance and user concern have been determined, they are combined to establish sensitivity levels (see Figure 2). Three sensitivity levels are used each identifying a different level of user concern for the environment.

Level 1. (High) Refers to those areas that are nationally important, have a high use volume, and are used by people who have a major concern for scenic qualities.

Level 2. (Average) Refers to those areas that are regionally important, have a moderate to low use volume, and are used by people who have a major concern for scenic qualities.

Level 3. (Low) Refers to those areas that are locally important, have a moderate to lo use volume, and are used by people who have a minor concern for scenic qualities.

The degree of user sensitivity to the visual environment is extremely difficult to quantify. Additional research into the sociological aspects of man's perception of environment is essential. Various research scientists are investigating this concept and changes will be made in the process as findings are published.

Figure 1

TRAVEL-ROUTES

ROADS

Primary	-Interstate Highways -U.S. Highways -State Highways -Forest Highways -Forest Development Roads w/seasonal ADT >200 vehicles.
Secondary	-County Highways -Forest Developments Roads w/seasonal ADT of 50 to 200 vehicles.
Tertiary	-Forest Development Roads w/seasonal ADT <50 vehicles.

TRAILS

Primary	-Trails In: National Parks, Monuments, and Recreation Areas, Wilderness Areas, Special Interest Areas, Wilderness Study Areas, and Experimental Areas (Research Natural Areas). -National Trail System Trails -Forest Development Trails w/ >1500 travelers per season.
Secondary	-Forest Development Trails w/ 300 to 1500 travelers per season.
Tertiary	-Forest Development Trails w/ <300 travelers per season.

USE-AREAS

Primary	-Designated Fee Sites -Developed Sites or Recreation Management Composites w/ >20,000 visitor days of use per season. -Observation Sites.
Secondary	-Developed Sites or Recreation Management Composites w/ 5,000 to 20,000 visitor days of use per season.
Tertiary	-Developed Sites or Recreation Management Composites w/ <5,000 visitor days of use per season.

WATER BODIES

LAKES, PONDS, AND RESERVOIRS

Primary - >50,000 visitor days of use per season.

Secondary - 5,000 to 50,000 visitor days of use per season.

Tertiary - <5,000 visitor days of use per season.

RIVERS AND STREAMS

Primary -Wild and Scenic Rivers
>150 visitor days per mile per season.

Secondary -50 to 150 visitor days per mile per season.

Tertiary - <50 visitor days per mile per season.

Figure 2

SENSITIVITY LEVEL MATRIX

Travel Route, Use Area, or Water Body	% of users have a MAJOR concern of scenic qualities		
	75	25 to 75	25
Primary	1	1	2
Secondary	1	2	3
Tertiary	2	3	3

*MAJOR concern for scenic qualities - Viewing outstanding scenery
- enjoying a unique or unusual environment
- Nature Study
- VIS related information

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